



E-ISSN: 2320-7078

P-ISSN: 2349-6800

www.entomoljournal.com

JEZS 2020; 8(3): 277-278

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Received: 12-03-2020

Accepted: 14-04-2020

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Dystocia due to primary uterine inertia in a primiparous sow: A case report

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Abstract

Dystocia due to uterine inertia is occasionally observed in sow. One year old primiparous Large White Yorkshire Pig was presented with difficulty in farrowing without progress in parturition. Based on clinical and pervaginal examination the case was diagnosed as dystocia due to primary uterine inertia. Sow was administered with combination of Dextrose, Oxytocin and Calcium after removing the obstructed fetus by fetotomy. Upon treatment three dead fetuses and one stillbirth piglet was removed. Following fluid and antibiotic therapy for five consecutive days sow had an uneventful recovery.

Keywords: Dystocia, primary uterine inertia, fetotomy, large white Yorkshire pig

Introduction

Lack of normal physiologic uterine contractions during or after parturition is termed as uterine inertia. Because of lack of uterine contraction the uterus become quietens and the progression of fetus out of the birth canal does not follow. Uterine inertia is generally classified into primary uterine inertia and secondary uterine inertia [1, 2]. In primary uterine inertia although the cervical dilation occurs and the fetus is in normal presentation, position and posture but it is not delivered due to lack of uterine contractions. The process of birth begins but do not progress into parturition. Whereas in secondary uterine inertia is due to exhaustion of uterine muscle [3]. Primary uterine inertia is seen occasionally in pigs but most often in other species and it is mainly due to hormonal dysfunction. When the uterine musculature becomes exhausted subsequent to failure of delivery of a mal disposed or oversized fetus or due to obstruction in the birth canal, then the condition is known as secondary uterine inertia. Then the uterine contractions stop or become weak and transient [1].

Dystocia due to uterine inertia is observed occasionally in sow [4]. Secondary uterine inertia causes lengthening of the farrowing process and builds hostile uterine environment that affects subsequent reproductive capability of the animal. Compromise and non-adoption of appropriate therapeutic measures finally push the animal to cull. Generally, two drugs viz. oxytocin and calcium gluconate are used to relieve secondary uterine inertia as oxytocin increases frequency of contractions and calcium gluconate increases strength of myometrial contraction [5].

Case History and Observation

One year old primiparous large white Yorkshire pig was presented to the Teaching Veterinary Clinical Complex, Veterinary College, Hassan with the history of difficulty in farrowing without progress in parturition since 12 hours. On general examination animal was dull and depressed and no straining was noticed. The conjunctival mucus membrane was pink and moist and the body temperature is 38.7 °C. On mammary gland examination, teats are engorged with milk. Upon stripping colostrum secretion is noticed. Vaginal examination revealed one emphysematous fetus in posterior presentation was obstructing the birth passage (Figure 1). Based on above findings the case was diagnosed as dystocia due to primary uterine inertia.

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Fig 1: Emphysematous fetus in birth passage



Fig 2: Three dead fetuses and one stillbirth

Treatment and Discussion

The animal was administered with 25% Dextrose solution 500ml intravenously through ear vein. After thorough lubrication of the birth passage with carboxymethyl cellulose manual retraction of obstructed fetus was attempted. But removal of obstructed fetus by manual traction was futile since the fetus was oversized and emphysematous. Fetotomy was performed on the dead emphysematous fetus by using BP blade. Fetotomy cuts were made in the order of removal hindlimb, evisceration, and removal of forelimb since the fetus was in posterior presentation. After removing the obstructed fetus, the sow was administered with 20IU of Oxytocin intramuscularly followed by slow intravenous infusion of 100 ml of 25% Calcium borogluconate. Two dead fetuses were delivered at 15 min interval. One live piglet was delivered with manual assistance. But the piglet was found dead after birth (Figure 2). Since the case was presented 12 hours after the initiation of parturition couldn't able to save the life of the fetus. The animal was administered with parenteral antibiotics. Fluid and antibiotic therapy was continued for five consecutive days and the sow had an uneventful recovery.

Irregular release of Oxytocin hormone and weak contraction of uterine musculature due to lack of energy and maternal blood calcium reserve will result in uterine inertia. Administration of oxytocin in late farrowing sufficiently increases frequency of uterine contraction even when the muscles were fatigued but without substantially decreasing

the blood flow [6]. But improper use of Oxytocin can be associated with uterus hyper stimulation and ruptured uterus as well as fetal death due to asphyxia [7]. Successful management of uterine inertia by intravenous infusion of calcium was reported [8] as it increases the strength of myometrial contraction [9]. [10] Allen *et al.*, 1993 reported rapid administration and high concentration of calcium may cause cardiac arrhythmia. [11] Tukheswar *et al.*, 2018, stated that combined treatment of (dextrose, oxytocin, calcium borogluconate and ceftiofur) has been found effective in correcting secondary uterine inertia in sow.

Conclusion

Hence from the present case it was concluded that combination of Dextrose, Calcium and Oxytocin could be successfully used to treat primary uterine inertia in sow.

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